

CLAIMS

1. Liquid reservoir means for supplying liquid to a nebulizer for atomization, said liquid reservoir means comprising:

5 a liquid reservoir formed of first and second membranes positioned in a generally opposing relationship to form a closed chamber between the membranes for containing liquid, said first and second membranes being formed of a resilient material, said first and second membranes having opposing surfaces which are contiguous when the chamber is empty and spaced when said chamber is filled with liquid and thereby expanded, the expansion of the chamber distending said resilient material membranes to cause said resilient material membranes to apply pressure to
10 liquid in the said chamber;

flow control means in communication with the chamber for controlling the discharge of liquid from the reservoir to the nebulizer under the pressure applied to the liquid by the distended resilient material membranes; and

15 a member in the nebulizer having a surface to which one of said first and second membranes is applied, said surface of said member being formed to deform at least one of said first and second membranes to further increase the pressure on the liquid in said chamber.

2. Liquid reservoir means according to claim 1 wherein said surface of said member is formed to cause said membranes to progressively contact each other, commencing at a periphery of the membranes and extending toward a center of the membranes.

3. Liquid reservoir means according to claim 2 wherein said surface is formed so that a radius of curvature of said surface increases from a periphery of said surface to a center of said surface.

4. Liquid reservoir means according to claim 1 wherein said

surface is formed to concavely deform at least one of said first and second membranes when viewed from the exterior of the chamber.

5. Liquid reservoir means according to claim 1 wherein said flow control means is mounted in one of said first and second membranes.

6. Liquid reservoir means according to claim 5 wherein said surface concavely deforms said one of said first and second membranes.

7. Liquid reservoir means according to claim 6 wherein said surface of the nebulizer receives said flow control means.

8. Liquid reservoir means according to claim 1 further comprising means for retaining said liquid reservoir on the nebulizer.

9. Liquid reservoir means according to claim 1 further including filling means in fluid communication with said chamber by which liquid may be supplied to said chamber.

10. Liquid reservoir means according to claim 9 wherein said filling means is mounted on a membrane.

11. Liquid reservoir means according to claim 9 wherein said filling means contains a valve.

12. Liquid reservoir means according to claim 9 wherein said filling means comprises means engagable with a syringe.

13. Liquid reservoir means according to claim 9 wherein said filling means is mounted on said retaining means.

14. Liquid reservoir means according to claim 9 wherein said filling means comprises means mounted on a membrane for drawing the membranes apart to create an underpressure in the chamber formed between said membranes and means mounted on a membrane to admit liquid to said chamber responsive to said underpressure.

15. Liquid reservoir means according to claim 14 wherein said means to admit liquid comprises said flow control means.

16. Liquid reservoir means according to claim 15 wherein said flow control means comprises a valve.

17. Liquid reservoir means of claim 16 wherein said valve has an inoperative state in which said valve operates as a check valve to prevent discharge of liquid from said chamber and an operative state for allowing the passage of liquid through the valve when said membranes are drawn apart

18. Liquid reservoir means of claim 15 wherein said flow control means has an end formed to engage a container for the liquid.

19. Liquid reservoir means of claim 14 wherein said means for drawing said membranes apart comprises a means engagable by a hand of a user to

draw the membranes apart.

20. Liquid reservoir means of claim 19 wherein said means engageable by a hand of a user is removable.

21. Liquid reservoir means of claim 1 further defined as a liquid drug reservoir means.